User manual

MAC HOME HD

REF. 4482

HD Standalone Modulator
HDMI ; AV ▸ COFDM

IKUSI velatia

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General safety instructions

- Read this entire user manual carefully before plugging in the unit.
- Keep these instructions to hand during unit installation.
- Follow all the instructions and safety notices when handling the unit.

Types of notices

The safety notices used in this manual and their meanings are described below:

DANGER OF DEATH OR INJURY

This safety notice indicates a potential hazard to people's lives and/or health. Failure to follow these instructions can lead to severe health consequences and may even cause fatal injuries.

- Do not install the unit during electrical storms. This could lead to electro-static discharge from lightning.
- Do not open the unit. You may suffer an electric shock.

RISK OF DAMAGE TO THE UNIT

This safety notice indicates a potentially hazardous situation. Failure to follow these instructions may cause material damage to the unit.

- Keep the unit well-ventilated at all times. Install the unit in an area free of dust. Do not place the unit in a place where the ventilation slots may become blocked or obstructed.
  Leave a distance of at least 20 cm all around the unit's sides. We recommend installing the unit in the VERTICAL position.
- Do not expose the unit to rain or moisture. Install in a dry location where potential leaks or condensation will not occur. In the event that liquid gets into the device, disconnect it immediately from the alternating current.
- Keep flammable objects, candles and anything that may cause a fire away from the unit.
- Connect the unit to an easily-accessible mains outlet, so that the unit can be quickly disconnected from the outlet in case of emergency.
- Do not expose the unit to sources of heat (sunlight, radiators, etc).

NOTE. Do not expose the unit to sources of heat (sunlight, radiators, etc).

DO NOT HANDLE ANY OF THE UNIT'S INTERNAL PARTS

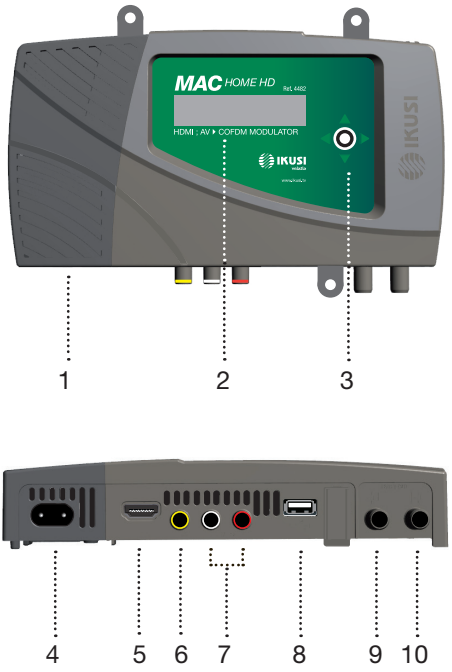
This notice indicates that users should not handle any internal parts that could affect its working order or warranty.

DO NOT DISPOSE OF UNIT AS NORMAL DOMESTIC URBAN WASTE

This type of notice indicates that the unit should not be disposed of as unselected domestic urban waste.

Introduction

General description



LEGEND

1 Removable power source

2 Screen (LCD)

3 Control button for configuration

4 Network connector

5 HDMI input connector

6 CVBS video input connector

7 L and R audio analogue inputs

8 USB input for video playback and firmware upgrade

9 Loop-through for combination of external RF TV signals.

10 DVB-T RF output

Main characteristics

The MAC HOME HD model is a standalone modulator unit which can handle different Audio and Video formats to make up a high-definition COFDM channel.

The unit has two types of input:

- An analogue audio and video channel through 3 RCA jacks.
- A digital audio and video channel in HDMI format through HDMI connector.

The multiplex signals allow the following operation modes:

- Ch1 HDMI SD/HD + USB
- Ch1 CVBS SD + USB

This product aims to meet video signal distribution requirements in residential facilities, hotels and landmark buildings, along with video surveillance installations with COFDM digital TV modulation, through a standalone unit.

Programming:

- User interface with LCD screen and control button for basic configuration.
- All adjustments are stored automatically.
- Reprogrammable as often as necessary.
- Easily configurable.

Signal processing:

- CVBS video and mono/stereo audio input.
- HDMI input.
- SD and HD standard signal quality.
- Video resolution (480i, 576i, 480p, 576p, 720p50, 720p60, 1080i50, 1080i60).
- Video compression MPEG2 and H.264.
- Audio compression MPEG2 L1/L2, LC-AAAC, HE-AAC.
- PAL/SECAM/NTSC/B&W colour standards supported.
- DVB-T RF output throughout the CATV band (45MHz-858MHz).
- Loop-trough for combination of external RF TV signals.
- User interface with LCD and joystick.
- USB interface to upgrade firmware or electronic signage applications.
- Removable power source.

General use of the unit

The following sections describe how to operate the unit using the control button and how to interpret the visual prompts displayed on the LCD screen. The programme comprises a main menu made up of submenus that can be selected to modify the unit's basic operation settings.

Visual prompts on LCD screen

This symbol indicates that you can scroll vertically.

Vertical button movement

In the menus and submenus, you can move the button up or down to scroll upwards or downwards, one step at a time.

In the settings, move the button up or down to change the values, one step at a time.

NOTE. To browse or modify the values faster, keep the button pressed up or down.

Horizontal button movement

In the menus, you can move the button to the left or right to select or go back, one step at a time.

In the settings, move the button to the left or to the right to browse, select or go back, step by step.

NOTE. Too browse faster, keep the button pressed to the left or to the right.

Press button

In the menus, this selects the submenu.

In the submenus, this selects the settings.

In the settings, this selects the parameter value.

Unit installation and configuration

The unit can be adjusted with just the LCD screen and control button. Follow the steps indicated below to install the unit and configure the different parameters accessible from the user interface in the LCD screen.

Module assembly and connectorising

RISK OF DAMAGE TO THE UNIT

Handling the unit mechanically may result in damage. Do not connect the unit to the power supply before or during assembly.

1 Assemble the mounts (*) and tighten the screws and plugs to secure the unit to the wall.

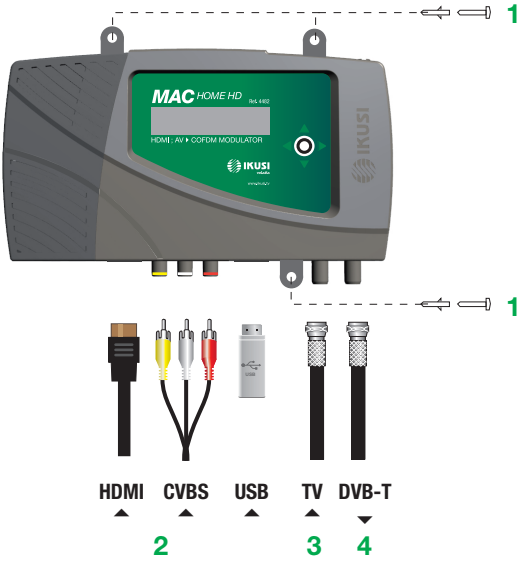
2 Connect the inputs (HDMI or CVBS) in the corresponding connectors.

3 Optionally, connect the loop-through TV input coaxial cable (F connector).

4 Connect the output cable to the DVB-T unit.

(*) The 3 wall attachments are supplied disassembled in order to install the unit horizontally. Their straightforward assembly consists of positioning the fastenings in the corresponding holes and pushing as far as possible (be sure to take your time doing this).

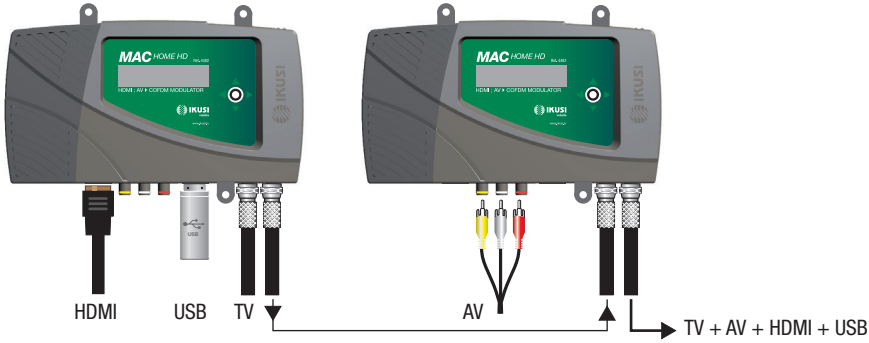
NOTE. It is recommended to assemble the equipment in upright position.



Cascade installation

Several MAC HOME HD units can be cascaded in order to increase services capacity. To do this, connect the RF output of the preceding unit to the TV input (loop-through) of the next unit (see assembly example). The number of modules depends on the available channels and the output level.

To enable an assembly with 2 or more units, it is necessary to identify each service with a different SID and TSID value. The MAC HOME HD unit automatically adjusts these values when programming the channel of each modulator.



Two input modes:
1 SD/HD channel (HDMI) + 1 USB channel (through inserted flash-memory)
1 SD channel (CVBS) + 1 USB channel (through inserted flash-memory)

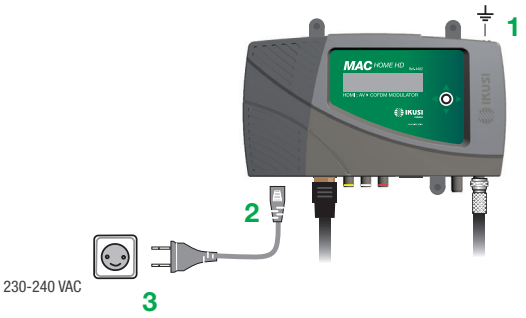
Electricity supply connection

DANGER

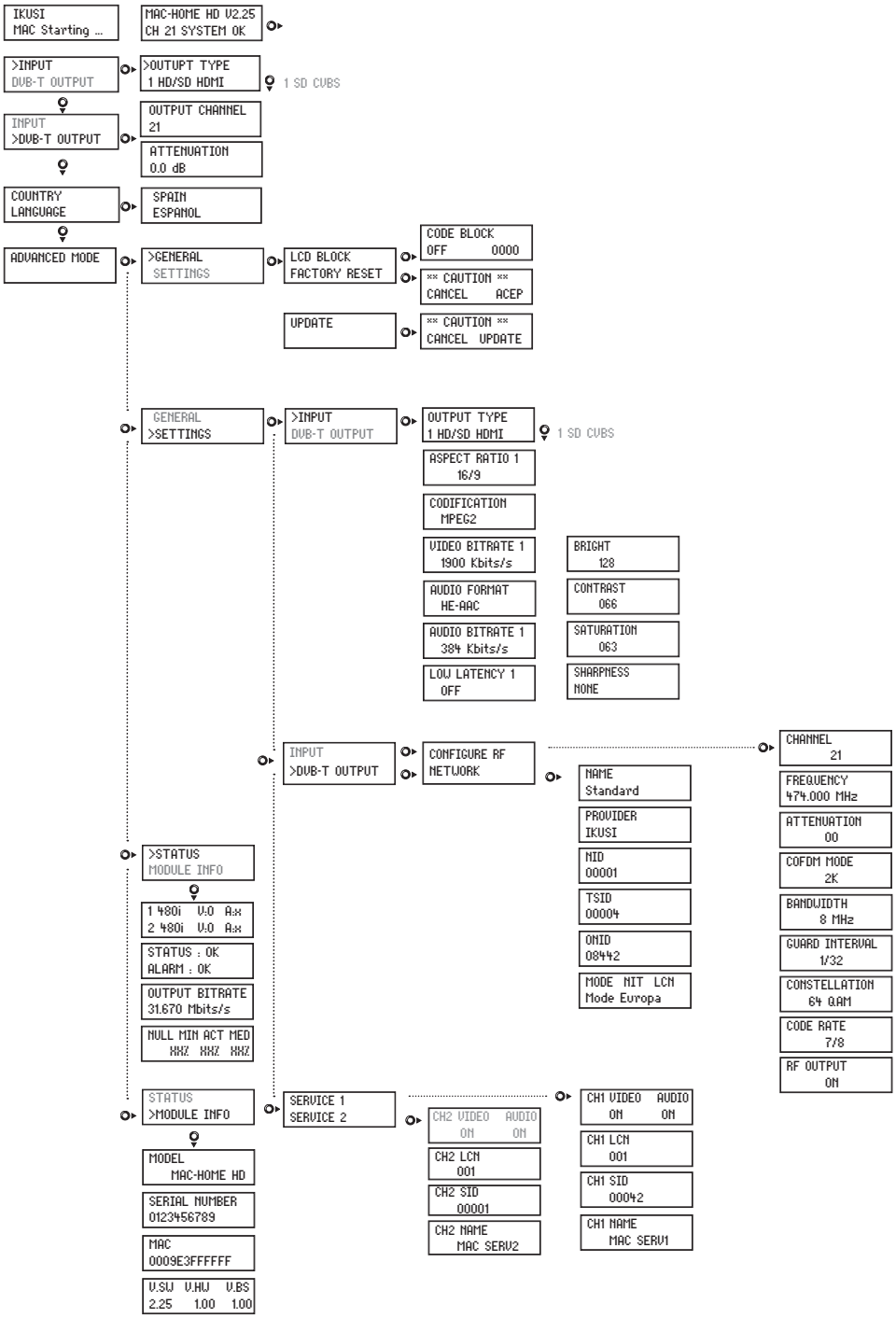
RISK OF DEATH OR INJURY

Connecting the power supply incorrectly can cause electrical shock. Follow these steps for the unit's electrical installation.

1. Connect the earth cable.
2. Connect the base of the network cable to the unit's network connector.
3. Connect the network cable input to the electricity supply input.



Fast menu guide



Initial configuration

NOTE. To enter a digit or character sequence on screen, use the vertical control button to change the value of the current digit or character, and the horizontal control button to move between digits or characters.

Position the cursor to the right of the current value and use the vertical control button to increase or decrease the current value. Keep the control button pressed up or down to increase or decrease the current value more quickly.

1) When the unit starts up, the start screen is displayed and prompts to enter **COUNTRY**. Move the button to the right and the cursor will flash next to the first country, then move the button down until you find the reference country. OK to save.

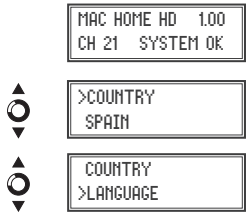
   * The unit automatically adjusts to the technical particularities of this country (see parameters table).

2) Move to the left and place the arrow in **LANGUAGE**, then move the button to the right and locate the required language by moving the button vertically. OK to save.

3) Move to the left through to the start screen, which shows the model, firmware version, channel and status..

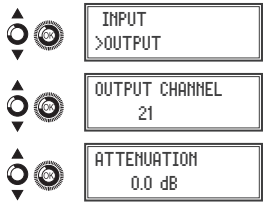
   Status:

   - SYSTEM OK = correct status.
   - NO input = input signal not detected
   - SYSTEM NOK = no video, CVBS mode without video at input (black video is generated)



Change of output channel

1) From the start screen, move the button to the right through to the **OUTPUT CHANNEL**; the cursor will blink next to the channel.
2) Use horizontal scrolling to move between the digits and vertical scrolling to change the value. OK to save.



Advanced mode

From the start menu, move a step to the right and down to locate the **ADVANCED MODE** screen.

General

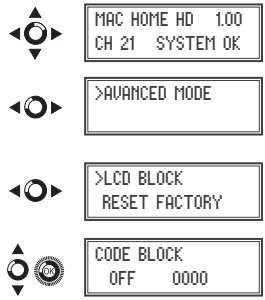
From the GENERAL screen, move the button to the right to access the following menus:

Block LCD and Joystick

1) Locate and select the **LCD BLOCK** to lock access to the configuration of the unit from the LCD display and using the control button.

   a) Enable (ON) or disable (OFF) the locking option.

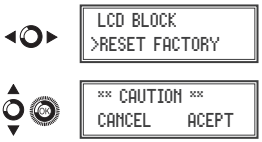
   b) Set a code to unlock the unit whenever this option is enabled.



Restoring factory settings

1) Locate and select the **RESET FACTORY** option to restore the default settings.

   a) Select the ACCEPT option to remove all the changes made to the settings by the installer or operator of the unit. OK to save. After a few seconds the unit restarts with the default settings.



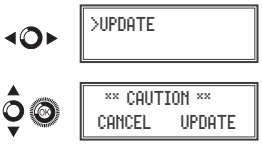
Firmware upgrade

1) Locate and select the **UPDATE** option.

   a) Download the FIRMWARE from the website (www.ikusi.tv)

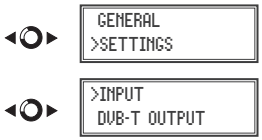
   b) Decompress and enter it in the root directory of a flash-memory.

   c) Insert the flash-memory in the USB port.



Settings

From the **SETTINGS** screen, move the button to the right to access the following menus:



Input signal configuration.

1) Locate and select the **INPUT** option

NOTE. Press the control button to the right to access one of the possible input types. Press “down” to access the settings for the following types of input signal.

   a) Locate and select the CH1 option to check the type of input signal, video detection (X) and audio detection (X). Only video values will be indicated in CVBS mode, there is no audio detection.

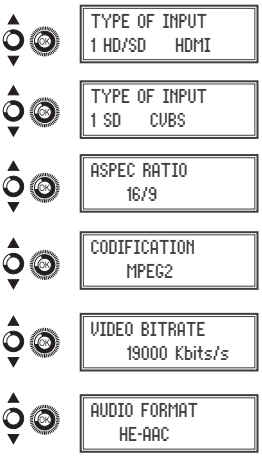
   b) Locate and select one of the two types of input, HDMI digital audio and video channel (SD/HD) or CVBS analogue audio and video channel (SD).

   c) Locate and select the option ASPECT RATIO (CVBS, HDMI). The image ratio values possible are 4:3 and 16:9.

   d) Locate and select the CODIFICATION option. Can be used to select the encoding standard of the audio and video digitalised signal from the options: MPEG2, MPEG4 and DEFAULT (if the input signal is SD, the default encoding will be MPEG2; if the signal is HD, encoding will be H.264) (1080p resolution only supports MPEG4).

   e) Locate and select the VIDEO BITRATE option. The unit can be configured for an input data encoding speed from 4000 to 19000 Kbits/s.

   g) Locate and select the AUDIO FORMAT option. Can be used to select audio encoding from three types: MPEG2 L1/L2, LC-AAC or HE-AAC.



f) Locate and select the option AUDIO BITRATE (CVBS, HDMI). The unit can be configured for an input data encoding speed of 96; 128; 160; 192; 224; 256; 320 and 384 Kbits/s.

h) Locate and select the LOW LATENCY option. This reduces encoding time for those applications where reaction time is important (e.g. cameras), offset by a reduction in encoding efficiency and the quality of images with a lot of movement.

i) Locate and select the option BRIGHT to configure the brightness of the video signal (1 to 255).

j) Locate and select the option CONTRAST to configure the contrast of the video signal (1 to 255).

k) Locate and select the option SATURATION to configure the configuration of the video signal (1 to 255).

l) Locate and select the option SHARPNESS to configure the sharpness of video signal (High, Medium soft or None).

Configuration of carrier services

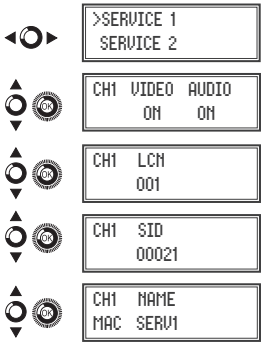
1) Locate and select the **SERVICE** 1 and 2 option.

a) Locate and select the CH1 VIDEO AUDIO option. Enable (ON) or disable (OFF) the audio and/or video signals of the input (audio and video cannot be locked in the 2nd service).

b) Locate and select CH LCN. Configure the signal LCN value.

c) Locate and select CH SID (use the output channel value). Configure the Service Identifier.

d) Locate and select CH NAME. Assign a name to the signal in CH (see characters table at the end of the manual).



DVB-T Output signal configuration

1) Locate and select **CONFIGURE RF**.

a) Locate and select the OUTPUT CHANNEL. This option automatically modifies the frequency, adapting it to the centre of the channel frequency.

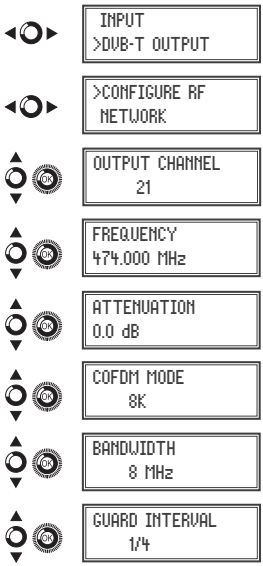
b) Locate and select the FREQUENCY option. This option modifies the channel value, adapting it to the frequency. Configure the output frequency value between 474 MHz and 862 MHz in 125 kHz steps.

c) Locate and select the ATTENUATION option. Select output attenuation between 0 and 25 dB.

d) Locate and select the COFDM MODE option. Select OFDM mode between 2K and 8K subcarriers.

e) Locate and select the BANDWIDTH option. Select the bandwidth between 6, 7 and 8 Mhz.

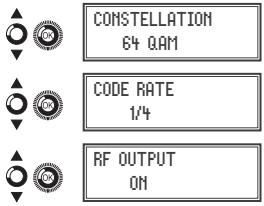
f) Locate and select the GUARD INTERVAL option. Select the save interval between symbols 1/32, 1/16, 1/8 and 1/4.



g) Locate and select the CONSTELLATION option. Select modulation constellation between 16QAM and 64QAM.

h) Locate and select the CODE RATE option. Select encoding rate between 1/2, 2/3, 3/4, 5/6 and 7/8.

i) Locate and select the RF OUTPUT option. Allows the RF signal to be enabled/disabled..



Network configuration

1) Locate and select the **NETWORK** option.

a) Locate and select the NAME option. Configure the network name.

b) Locate and select the PROVIDER option. Configure the name of the network service provider.

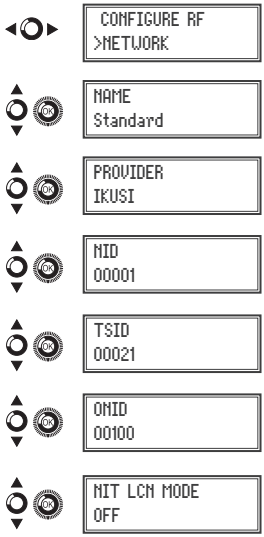
c) Locate and select the NID option. Configure the network identifier value.

d) Locate and select the TSID option. Configure the TS or transport current identifier value.

e) Locate and select the ONID option. Configure the original network identifier.

f) Locate and select the NIT LCN MODE option. Can be used to select NIT LCN mode:

- OFF: LCN descriptor not inserted in the NIT.
- EUROPE MODE: Descriptor for Europe is inserted.
- INDEPENDENT TELEVISION COMMISSION: Descriptor for UK is inserted.
- NORDIG MODE V1: Descriptor is inserted in accordance with the Nordig V1 specification.
- NORDIG MODE V2: Descriptor is inserted in accordance with the Nordig V2 specification.
- GENERIC MODE: Generic LCN descriptor.



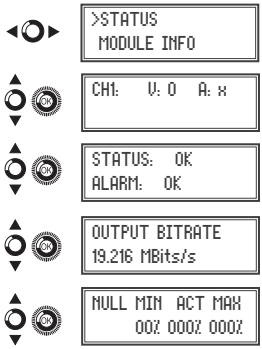
DEFAULT PARAMETERS TABLE IN ACCORDANCE WITH THE COUNTRY SELECTED

Country	AUSTRALIA	FRANCE	GREAT BRITAIN	ITALY	PORTUGAL	SPAIN
Ch LCN	100	45	400	0	10	1
Ch SID	38	21	21	21	21	21
Channel	38	21	21	21	21	21
COFDM Mode	8k	8k	2k	8k	8k	8k
Bandwidth	7 MHz	8 MHz	8 MHz	8 MHz	8 MHz	8 MHz
NID	1	1	1	1	1	1
TSID	38	21	21	21	21	21
ONID	100	8442	9018	1	8904	100
NIT MODE	ON	ON	ON	ON	ON	ON

Note: When configuring the country, the equipment is always configured with the first channel allowed, with the frequency of the centre of this channel.

Status of the unit

NOTE. The unit shows its status in detail, along with the existence of active alarms in the module.



1) Locate and select the **STATUS** option.

   a) Locate and show STATUS. The unit reports its status and alarms: OK / Error.

   b) Locate and indicate OUTPUT BITRATE. The unit reports the output data speed as Mbits/s.

   c) Locate and indicate MIN ACT MAX NULL. The unit reports the volume of null data packages in the output, minimum, current and maximum as a percentage of the total.

Information of the unit

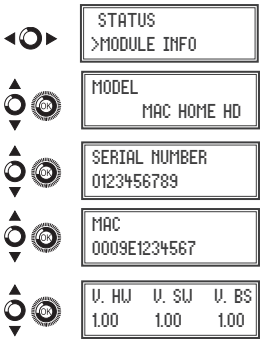
1) Locate and select the **MODULE INFO** option.

   a) Locate and indicate the MODEL option. The unit reports the model and version of the unit.

   b) Locate and indicate the SERIAL NUMBER option. The unit reports its serial number.

   c) Locate MAC. Shows the number which identifies the unit for the network connection.

   d) Locate and indicate the option V.SW V.HW V.BS. The unit reports the software version (V.SW), hardware version (V.HW) and system start-up version (V.BS).



Equipment unlocking

The unit can be locked, thus preventing anybody from using the display and control button to modify the settings.

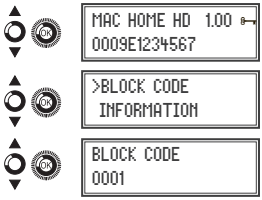
To unlock the unit:

1) Locate and select **LOCK CODE**.

2) Enter the unlock code assigned by the unit operator.

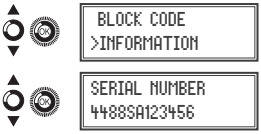
3) The unit reports the code validity.

NOTE. Once the code has been entered, restart the unit in order to lock. This will remain until disabled by the operator.



To unlock the unit without lock code:

1) Locate and select **INFORMATION**.



2) Contact the supplier of the unit and report the serial number.

The unit supplier provides an unlock code for the indicated SERIAL NUMBER.

3) The unit reports the code validity.

USB Player

The unit can be used to play back videos through the USB port. Using the software, the user can draw up a personalised list of images and videos in order to create the end file ("video-final.ts"), which can then be played back by the modulator through a pendrive (adding a new channel to the existing one in the input).

Software to create videos for playback through the MAC HOME HD.

Users should install the "conversor-mac-installer.exe" on their PC, after downloading it from the website www.ikusi.tv.

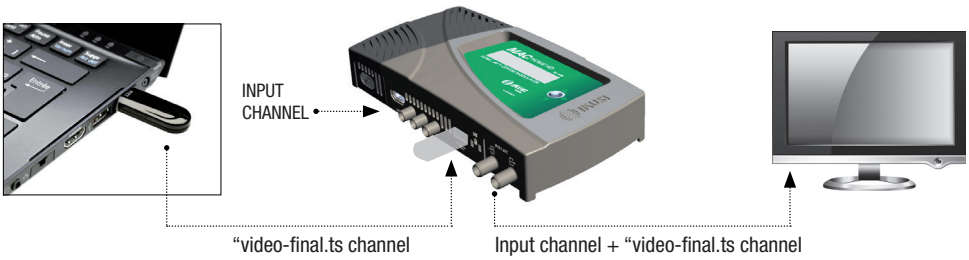
Video playback

Once the pendrive is inserted in the USB connector of the MAC-HOME HD modulator, playback will start automatically after a few seconds without having to access the menu; if the file is not correct, the system will continue as a modulator (the application manual can be found at www.ikusi.tv).

NOTE. The modulator sends the "USB" service signal for tuning by TVs, even when the pendrive is not connected, thus avoiding having to retune the TVs when connecting the USB pendrive.

NOTE

In case of connecting only the USB flash drive, the input mode must be "CVBS".



Technical specifications

MAC HOME HD model (4482)

Video inputs		**2** (non-simultaneous)
Input format		CVBS, HDMI
Input level (CVBS)	Vpp	0.7 - 1.4
Impedancia de entrada (CVBS)	Ω	75
Video standards		PAL / SECAM / NTSC / B&W

Audio input		**1** (Mono and Stereo)
Analog audio		Yes
Digital audio		Yes (HDMI)
Audio input level (analog)	Vpp	0.5 - 2.5

Compression	
Video	MPEG2 MP@ML, H.264/MPEG4 AVC MP L4.1
Audio	MPEG2 L1/L2, LC-AAC, HE-AAC
Video quality	SD, HD (480i, 576i, 480p, 576p, 720p50, 720p60, 1080i50, 1080i60)
Max resolution	1080i60

COFDM output		**COFDM digital TV**
Standard COFDM		DVB-T according to ETSI EN 300 744
Bandwidth	MHz	6 / 7 / 8
Number of carriers		2K / 8K
MER	dB	≥ 40
Freuquency range	MHz	47 - 862
Output level	dBµV	≥ 80
Output pitch attenuation	dB	1
Impedance	Ω	75
Frequency pitch	kHz	1
Level adjustment	dB	-25
Frequency stability	ppm	≤±30
Espurious in band	dBc	≤-50
Noise level (ΔB = 8 MHz)	dBc	≤-60
Loop-through Frequency		45 MHz to 2,5 G

Processing	
NIT Adapted	Yes (automatically generated)
SDT Adapted	Yes (entering configurable name)
TS monitoring	Yes
PSI/SI Adapted	Generation and insertion of tables PAT, PMT, SDT, NIT
Calculating the output bitrate	Yes
Network configuration	NID, ONID, TSID, Network name, Provider
SID configuration	Yes
LCN processing	Yes
LCN modes	OFF,Europe,Independent Television Comision (UK), Nordig mode V1, Nordig mode V2, Generic Mode

General	
Supply voltage	230 - 240 VAC
Consumption	14 W
Operating temperature	0 to 45 ºC
Firmware updates	Yes, via USB
Video playback through USB port	Yes

Interface	
LCD diaplay	16x2 characters
Programming button	Joystick 5 positions

Maintenance

Unit care

HANDLING THE INSIDE OF THE UNIT IS FORBIDDEN
Do not dismantle or try to repair the unit, its accessories or its components. This will render the warranty null and void.

- Do not use the power cable if it is damaged.
- To disconnect the power cable, pull carefully on the plug and not the cable.
- To clean the panel and unit connections:
  - Unplug the unit.
  - Clean with a slightly damp, soft cloth.
  - Allow to dry completely before use.
- Do not spill liquid onto the unit.
- Keep ventilation slots free of dust and any foreign bodies.

Troubleshooting

The most frequent problems arising during unit installation are indicated below. If you encounter any other type of problem, please contact the unit sales team.

Problem	Possible cause	What to do
Forgotten unlock code	------	Contact your supplier
Nothing appears on LCD display	The power cable is not connected properly	Check the power cable

Warranty

Notwithstanding any complaints made to the direct vendor of the product, IKUSI offers unit users a two-year warranty as of the invoice date, which shall become valid on presenting the receipt of purchase.

During the warranty period, IKUSI is responsible for any faults arising due to material or manufacturing defects and shall repair the receiver or replace it for another corresponding to the state of technology at that time. The warranty does not cover any faults or defects due to misuse or non-fulfilment of the information given in this installation manual.

All complaints other than those indicated are not included in the warranty. More specifically, the warranty does not cover services provided by the authorised vendor (e.g. installation, configuration or programme updates) or the repair of any damages or injuries caused to the client or others as a result of the installation or of receiver operations.

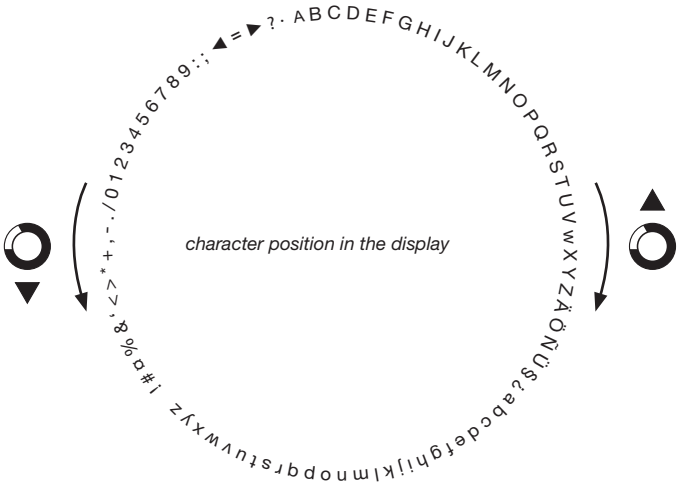
Unit recycling

RECYCLING OF ELECTRICAL AND ELECTRONIC EQUIPMENT

(Applicable in the European Union and in European countries with selective waste collection systems.)

This symbol on your unit or its packaging indicates that this product cannot be treated as general domestic waste and must be handed in at the corresponding point of collection for electric and electronic equipment. By ensuring this product is disposed of correctly you will help prevent negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. Recycling of materials helps preserve natural resources. For more detailed information on the recycling of this product, please contact your local council, your nearest collection point or the distributor from whom you purchased the product.

Characters table



CE Certificate

EC-Declaration of Conformity

CE marking

We, Manufacturer

IKUSI, *Angel Iglesias, S.A.*
Paseo Miramón, 170
E-20009 San Sebastián, Spain

declare that the product

HDMI, AV ▸ COFDM Autonomous Modulator
MAC-HOME HD

is in conformity with

Council Directive 2004/108/CE
(EMC Directive)
Standards to which conformity is declared :

EN 50083-2 :2007
Cabled distribution systems for television and sound signals. Part 2: Electromagnetic compatibility for equipment.

and

Council Directive 2006/95/CE
(Low Voltage Directive)
Standards to which conformity is declared :

EN 60728-11 :2005
Cabled Distribution Systems for Television and Sound Signals. Part 11: Safety Requirements.

EN 60065 :2003
Safety requirements for mains operated electronics and related apparatus for household and similar general use.

IKUSI velatia

San Sebastián, may 2014

Luis Rodríguez Navarrete
R&D Director

Safety instructions

Instrucciones de Seguridad — ES

- No obstruya ni cubra las ranuras de ventilación del aparato. Para que haya una ventilación correcta, deje al menos un espacio de 20 cm alrededor.
- No exponer el aparato a la lluvia o al goteo de agua. No colocar encima ningún recipiente con líquido. En caso de que un líquido cayera dentro del aparato, desconectar éste inmediatamente de la red alterna.
- Mantenga lejos del aparato los objetos inflamables, velas y todo aquello que pudiera causar un incendio.
- Siguiendo las instrucciones de instalación, fijar firmemente el aparato bien sea en la pared bien sea en la base-soporte especialmente destinada al efecto.
- Conectar el aparato a una toma de tensión de red que sea fácilmente accesible, de forma que en caso de emergencia el aparato pueda ser desconectado rápidamente de la toma.
- No abrir el aparato, ya que existe riesgo de descarga eléctrica.

Safety Instructions — EN

- Do not block or cover the device ventilation openings. For better ventilation, leave a surrounding space of at least 20 cm.
- Do not expose the device to rain or water drops. Do not put any kind of liquid container on top it. In the event that liquid gets into the device, disconnect it immediately from the alternating current.
- Keep flammable objects, candles and anything that may cause a fire away from the device.
- In accordance with the installation instructions, fix the device firmly either on the wall or on the base-support specially intended for this purpose.
- Connect the device to an easily accessible mains outlet, so that the device may be quickly disconnected from the outlet in case of emergency.
- Do not open the device; there is a risk of electric shock.

Instructions de sécurité — FR

- Ne bloquez ni ne couvrez les orifices d'aération de l'appareil. Pour une meilleure aération, laissez tout autour un espace d'environ 20 cm.
- N'exposez pas l'appareil à la pluie ou aux gouttes d'eau. Ne mettez aucun type de récipient pour liquides sur l'appareil. En cas de renversement de liquide à l'intérieur de l'appareil, débranchez-le immédiatement.
- Gardez les objets inflammables, les bougies et tout élément susceptible de provoquer un incendie loin de l'appareil.
- Conformément aux instructions d'installation, fixez l'appareil fermement au mur ou au support base spécialement conçu à cet effet.
- Branchez l'appareil à une prise de courant facilement accessible, de sorte que l'appareil puisse être rapidement débranché en cas d'urgence.
- N'ouvrez pas l'appareil afin d'éviter tout risque d'électrocution.

Instruções de Segurança — PT

- Não bloqueie nem cubra as aberturas de ventilação do aparelho. Para uma ventilação melhor, deixe pelo menos 20 cm de espaço à volta do dispositivo.
- Não exponha o aparelho à chuva ou a gotas de água, nem coloque por cima nenhum recipiente com água dentro. Caso entre água no aparelho, retire imediatamente a ficha da tomada.
- Afaste objectos inflamáveis, velas e qualquer coisa que possa provocar um incêndio.
- Seguindo as instruções de instalação, fixe bem o aparelho na parede ou no suporte especialmente destinado para esse efeito.
- Ligue o aparelho a uma tomada eléctrica de acesso fácil para que possa ser rapidamente desligado da tomada em caso de emergência.
- Não abra o aparelho, visto que pode provocar risco de descargas eléctricas.

Sicherheitshinweise — DE

- Die Belüftungsöffnungen des Geräts nicht blockieren oder abdecken. Für eine korrekte Belüftung mindestens 20 cm Abstand um das Gerät einhalten.
- Das Gerät weder Regen noch Wassertropfen aussetzen. Keine Flüssigkeitsbehälter auf dem Gerät abstellen. Bei Eindringen von Flüssigkeit in das Gerät, dieses sofort von der Wechselstromversorgung trennen.
- Brennbare Objekte, Kerzen und andere mögliche Brandauslöser von dem Gerät fernhalten.
- Das Gerät entsprechend den Installationsanweisungen stabil an der Wand oder auf dem speziell für diesen Zweck ausgelegten Sockel befestigen.
- Das Gerät an eine leicht zugängliche Steckdose anschließen, so dass dieses im Notfall schnell von der Steckdose getrennt werden kann.
- Das Gerät nicht öffnen; es besteht Stromschlaggefahr.

Инструкции по безопасности — RU

- **Не закрывайте и не загораживайте вентиляционные отверстия устройства. Для обеспечения нормальной вентиляции оставьте по меньшей мере 20 см. свободного пространства вблизи устройства.**
- **Необходимо обеспечить защиту устройства от попадания влаги внутрь: дождь, снег и т.п. Не размещайте сверху устройства сосуды с жидкостью. В случае попадания жидкости внутрь устройства, немедленно отключите его от сети переменного тока.**
- **Не размещайте вблизи устройства легковоспламеняющиеся предметы, источники**
- **огня и все что может спровоцировать пожар.**
- **Следуя инструкции по установке, надежно закрепите устройство на стене или на монтажной панели, специально предназначенной для этой целей.**
- **Розетка сети переменного тока, к которой подключено устройство, должна быть расположена в легкодоступном месте, чтобы было возможно быстро отключить устройство в экстренном случае.**
- **Не разбирать устройство, т.к. есть угроза электрического удара.**

Veiligheidsinstructies — NL

- U mag de ventilatieopeningen van het apparaat niet blokkeren of bedekken. Voor betere ventilatie dient u minstens 20 cm ruimte eromheen vrij te houden.
- Stel het apparaat niet bloot aan regen of waterdruppels. Plaats er geen vloeistofverpakkingen op. In geval er vloeistof in het apparaat komt, dient u het onmiddellijk van de wisselstroom af te sluiten.
- Houdt brandbare voorwerpen, kaarsen en elk voorwerp dat brand kan veroorzaken, uit de buurt van het apparaat.
- Volg de installatie-instructies op. Plaats het apparaat stevig aan de muur of op de basisondersteuning, welke hiervoor is bestemd.
- Sluit het apparaat aan op een eenvoudig te bereiken stopcontact, zodat u in geval van nood het apparaat snel uit het stopcontact kunt halen.
- Maak het apparaat niet open. U riskeert hier elektrische schokken mee.

Istruzioni di sicurezza — IT

- Non ostruire né coprire le aperture di ventilazione dell'apparecchiatura. Per una migliore ventilazione, lasciare attorno uno spazio libero di almeno 20 cm.
- Non esporre l'apparecchiatura alla pioggia o a gocciolamento d'acqua. Non appoggiare sulla superficie contenitori di liquido. Nel caso penetrasse del liquido nell'apparecchiatura, scollegarla immediatamente dalla rete di corrente elettrica alternata.
- Mantenere lontani dall'apparecchiatura gli oggetti infiammabili, le candele o qualsiasi cosa possa causare un incendio.
- Seguendo le istruzioni di installazione, fissare saldamente l'apparecchiatura al muro o all'apposita base di supporto.
- Collegare l'apparecchiatura ad una presa di corrente facilmente accessibile, in modo da poterla scollegare velocemente dalla presa in caso di emergenza.
- Non aprire l'apparecchiatura. Pericolo di scarica elettrica.

Οδηγίες ασφαλείας — EL

- Μην κλείνετε και μην καλύπτετε τα ανοίγματα εξαερισμού της συσκευής. Για καλύτερο εξαερισμό, αφήστε χώρο τουλάχιστον 20 εκ. γύρω της.
- Μην εκθέτετε τη συσκευή στη βροχή ή σε σταγόνες νερού. Μην τοποθετείτε κανενός είδους δοχείο που περιέχει υγρό πάνω στη συσκευή. Σε περίπτωση που διαπεδάσει υγρό στη συσκευή, αποσυνδέστε την αμέσως από το εναλλασσόμενο ρεύμα.
- Διατηρείτε μακριά από τη συσκευή εύφλεκτα υλικά, κεριά και οτιδήποτε θα μπορούσε να προκαλέσει φωτιά.
- Ακολουθώντας τις οδηγίες εγκατάστασης, στερεώστε σταθερά τη συσκευή είτε στον τοίχο είτε στην ειδική γι' αυτόν το σκοπό βάση στήριξης.
- Συνδέστε τη συσκευή σε μια εύκολα προσπελάσιμη πρίζα ηλεκτρικού ρεύματος, έτσι ώστε η συσκευή να μπορεί να αποσυνδεθεί γρήγορα από την πρίζα σε περίπτωση έκτακτης ανάγκης.
- Μην ανοίγετε τη συσκευή, γιατί υπάρχει κίνδυνος ηλεκτροπληξίας.

Instrukcja bezpieczeństwa — PL

- Nie należy blokować lub zakrywać otworów wentylacyjnych urządzenia. Aby uzyskać lepszą wentylację, należy pozostawić co najmniej 20 cm wolnego miejsca wokół urządzenia.
- Nie należy wystawiać urządzenia na działanie deszczu lub wody. Nie należy na nim stawiać żadnego pojemnika z płynem. W przypadku przecieku płynu do wnętrza urządzenia, należy je natychmiast odłączyć od źródła prądu zmiennego.
- W pobliżu urządzenia nie należy stawiać żadnych łatwopalnych przedmiotów, świec lub innych rzeczy, które mogą wywołać pożar.
- Zgodnie z instrukcją montażu, należy przymocować urządzenie należycie do ściany lub na podstawie przeznaczonej do tego celu.
- Urządzenie należy przyłączyć do łatwo dostępnego gniazdka elektrycznego, które umożliwia szybkie odłączenie urządzenia w nagłych przypadkach.
- Nie należy otwierać obudowy urządzenia; istnieją zagrożenie porażenia elektrycznego.

Turvaohjeet — FI

- Älä peitä laitteen tuuletusaukkoja. Jätä vähintään 20 cm tila laitteen ympärille hyvän tuuletuksen varmentamiseksi.
- Älä altista laitetta sateelle tai vedelle. Älä aseta mitään nestettä sisältävää säiliötä sen päälle. Jos nestettä pääsee laitteen sisään, kytke se välittömästi irti pistokkeesta.
- Pidä kaikki palavat esineet, kuten kynttilät ja muut jotka voivat sytyttä tulipalon, poissa laitteen lähettyviltä.
- Noudattaen asennusohjeita, kiinnitä laite tukevasti seinälle tai siihen tarkoitettuun jalustaan.
- Kytke laite pistokkeeseen johon on helppo päästä jotta laite voidaan kytkeä irti nopeasti pistokkeesta hätätilanteen sattuessa.
- Älä avaa laitetta sähköiskuvaaran takia.

Bezpečnostní pokyny — CS

- Neomezujte přístup k větracím otvorům zařízení ani je nezakrývejte. Pro lepší větrání kolem nich ponechejte volný prostor nejméně 20 cm.
- Nevystavujte zařízení dešti nebo kapající vodě. Nestavte na ně jakékoli nádoby obsahující kapaliny. V případě, že se do zařízení dostane voda, okamžitě je odpojte od síťového napájení.
- Hořlavé předměty, svíčky a cokoli, co by mohlo způsobit požár, neumisťujte do blízkosti zařízení.
- Postupujte podle pokynů pro instalaci a zařízení řádně upevněte na zeď nebo umístěte na podstavec určený speciálně k tomu účelu.
- Zařízení připojte ke snadno přístupné síťové zásuvce, aby v případě nebezpečí bylo možno je rychle odpojit.
- Neotvírejte zařízení, jinak hrozí nebezpečí úrazu elektrickým proudem.

Sikkerhedsanvisninger — DA

- Bloker eller tildæk ikke anordningens ventilationsåbninger. Lad der være mindst 20 cm frit rum omkring den af hensyn til bedre ventilation.
- Udsæt ikke anordningen for regn eller vanddråber. Anbring ikke nogen form for væskebeholder på den. I tilfælde af, at der kommer væske ind i anordningen, skal den omgående frakobles vekselstrømmen.
- Hold brændbare genstande, stearinlys og alt, hvad der kan forårsage brand, væk fra anordningen.
- Ikke installeringsvejledningerne følges, fastgøres anordningen sikkert på væggen eller på den basisholder, som er specielt beregnet til dette formål.
- Tilslut anordningen til en lettilgængelig lysnetkontakt, så anordningen hurtigt kan frakobles stikkontakten i en nødsituation.
- Luk ikke anordningen op. Der er risiko for elektrisk stød.

Bezpečnostné pokyny — SK

- Neobmedzujte prístup k vetracím otvorom zariadenia ani ich nezakrývajte. Pre lepšie vetranie nechajte okolo nich voľný priestor najmenej 20 cm.
- Nevystavujte zariadenie dažďu alebo kvapkajúcej vode. Nedávajte na zariadenie žiadne nádoby obsahujúce kvapaliny. V prípade, že sa do zariadenia dostane voda, okamžite ho odpojte od sieťového napájania.
- Horľavé predmety, sviečky a čokoľvek, čo by mohlo spôsobiť požiar, neumiestňujte do blízkosti zariadenia.
- Postupujte podľa pokynov na inštaláciu a zariadenie riadne upevnite na stenu alebo umiestnite na podstavec určený špeciálne na tento účel.
- Zariadenie pripojte k ľahko prístupnej sieťovej zásuvke, aby ho bolo možné v prípade nebezpečenstva rýchlo odpojiť.
- Neotvárajte zariadenie, inak hrozí nebezpečenstvo úrazu elektrickým prúdom.

Varnostna navodila — SL

- Ne prekrivajte ali blokirajte prezračevalnih odprtin na napravi. Za boljšo prezračevanje pustite najmanj 20 cm prostora okoli naprave.
- Ne izpostavljajte naprave na dež ali vodo. Na napravo ne postavljajte posod s tekočino. Če tekočina pride v napravo jo takoj izključite iz izmenične napetosti.
- Napravi ne približujte vnetljivih predmetov, sveč ali nekaj kar lahko povzroči požar.
- Po navodilih za montažo napravo trdno pritrdite na zid ali podstavek, ki je za to namenjen.
- Napravo priključite v enostavno dostopen vtikač tako, da jo lahko v primeru nevarnosti hitro izključite.
- Naprave ne odpirajte – obstaja nevarnost električnega udara.

Drošības instrukcija — LV

- Neaizsprostojiet un neapklājiet ierīces ventilācijas atveres. Labākai ventilācijai atstājiet vismaz 20 cm telpu ap tām.
- Nepakļaujiet ierīci lietum vai ūdens pilieniem. Nelieciet uz to šķidrumu saturošus traukus. Gadījumā, ja ūdens iekļūst ierīcē, nekavējoties atvienojiet to no maiņstrāvas.
- Neturiet ierīces tuvumā viegli uzliesmojošus objektus, sveces un citus priekšmetus, kas var aizdegties.
- Sekojot uzstādīšanas instrukcijām, cieši piestipriniet ierīci vai nu pie sienas, vai nu uz pamatu, kas īpaši domāts šim nolūkam.
- Pievienojiet ierīci viegli pieejamai jaudas padeves iekārtai, lai ierīce var tikt ātri atvienota no padeves gadījuma nepieciešamības gadījumā.
- Neatveriet ierīci; pastāv risks saņemt elektrisko šoku.

Saugumo taisyklės — LT

- Neuždenkite įrenginio ventiliacinių angų. Laikykite įrenginį bent 20 cm atstumu nuo kitų objektų dėl geresnės ventiliacijos.
- Saugokite įrenginį nuo lietaus ar vandens lašų. Nedėkite jokio indo su skysčiu ant įrenginio. Jei įrenginio vidun pakliūtų skysčio, tuoj pat atjunkite jį nuo kintamosios srovės.
- Laikykite degius daiktus, žvakes ir viską, kas gali sukelti gaisrą, kuo toliau nuo įrenginio.
- Laikykitės instaliavimo instrukcijų, pritvirtinkite įrenginį tvirtai prie sienos arba prie pagrindo, specialiai skirto šiam tikslui.
- Prijunkite įrenginį prie lengvai prieinamo pagrindinio lizdo taip, kad galima būtų lengvai įrenginį atjungti avarinio atveju.
- Neatidarykite įrenginio, gali nutrenkti elektra.

Struzzjonijiet dwar is-Sigurtà — MT

- M'għandekx timpedixxi jew tgħatti l-ftuħ ta' ventilazzjoni tat-tagħmir. Għal ventilazzjoni aħjar, ħalli spazju ta' mhux anqas minn 20 cm madwaru.
- Tesponiex it-tagħmir għal xita jew tqattir ta' ilma. M'għandekx tqiegħed fuqu tip ta' reċipjent ta' likwidu fuqu. Fil-każ li likwidu jidħol fit-tagħmir, skonnettja minnufih mill-kurrent li jaħarma.
- Żomm oġġetti fjammabbli, xemgħat u kull ħaġa li tista' tikkaġuna xi nar ` il boghod mit-tagħmir.
- Wara l-istruzzjonijiet ta' installazzjoni, waħħal it-tagħmir sew jew mal-ħajt jew fuq l-appoġġ bażi maħsub speċifikament għal dan il-għan.
- Ikkonnettja t-tagħmir ma' provvista ta' dawl faċilment aċċessibbli, sabiex it-tagħmir ikun jista' jiġi skonnettjat minn mas-sokit f'każ ta' emerġenza.
- M'għandekx tiftaħ it-tagħmir; Hemm riskju ta' xokk elettriku.

Biztonsági előírások — HU

- Ne zárja el és ne fedje le a készülék szellőztető nyílásait. A megfelelőbb szellőztetés érdekében, hagyjon legalább 20 cm-es nyílt helyet a nyílás körül.
- A készüléket ne tegye ki eső vagy vízcseppek hatásának. Ne helyezzen rá semmilyen folyadéktartályt. Ha a készülékbe folyadék kerül, azonnal válassza le a váltakozó áramforrásról.
- Tartsa távol a készüléktől a gyúlékony tárgyakat, gyertyákat és bármilyen eszközt, mely tüzet okozhat.
- A felszerelési utasításokat követve, biztonságosan rögzítse a készüléket a falra, vagy az erre szánt állványra.
- Csatlakoztassa a készüléket egy könnyen hozzáférhető hálózati csatlakozóaljzathoz, mely sürgősség esetén, lehetővé teszi a készülék gyors leválasztását.
- A készüléket tilos kinyitni; áramütés veszélye áll fenn.

Ohutusjuhend — ET

- Seadme kaant ega ventilatsiooniavasid ei tohi kinni katta. Paremaks ventileerimiseks peab seadme ümber olema vähemalt 20 cm vaba ruumi.
- Ärge jätke seadet vihma kätte ega niiskesse kohta. Ärge asetage seadmele vedelikke sisaldavaid konteinereid. Juhul, kui vedelik satub seadmesse, tuleb seade viivitamatult vooluvõrgust lahutada.
- Veenduge, et tuleohtlikud esemed (küünlad ja teised objektid, mis võivad tekitada tulekahju) jääksid seadmest piisavalt kaugele.
- Järgides paigaldusjuhiseid kinnitage seade kindlalt seinale või spetsiaalsele tugialusele.
- Ühendage toitejuhe kergelt ligipääsetavas kohas pistikupessa, et hädajuhtumi korral oleks võimalik seadet kiiresti vooluvõrgust lahti ühendada.
- Elektrilöögi vältimiseks ärge avage seadme kaant.

Säkerhetsanvisningar — SV

- Ventilationsöppningarna på enheten får inte blockeras eller täckas över. För att uppnå en bättre ventilation bör minst 20 cm fritt utrymme lämnas runt enheten.
- Utsätt inte enheten för regn eller vattendroppar. Placera aldrig någon som helst vätskebehållare på den. Om vätska skulle komma in i enheten måste den omedelbart kopplas ur från nätspänningen.
- Brännbara föremål, stearinljus och alla andra föremål som kan orsaka brand får inte förvaras nära enheten.
- Följ installationsanvisningarna och montera enheten antingen på väggen eller på det stativ som är särskilt avsett för ändamålet.
- Anslut enheten till ett lättåtkomligt nätspänningsuttag, så att enheten snabbt kan kopplas ur vid en eventuell nödsituation.
- Öppna inte enheten eftersom det föreligger risk för elektrisk chock.

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